

No.

9500268



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Jeffrey D. Ehlers

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE SEED. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COWPEA

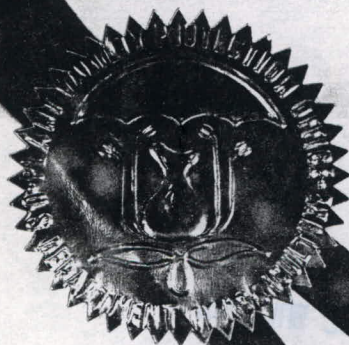
'Kunde Zulu'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-eighth day of June in the year of our Lord one thousand nine hundred and ninety-six.

Attest:

Marsha A. Stanton
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Jan F. Feltman
Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Jeffrey D. Ehlers		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER K-003	3. VARIETY NAME Kunde Zulu
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 22500 Climbing Rose Dr. Moreno Valley, CA 92557		5. TELEPHONE (include area code) (909) 784-3540	FOR OFFICIAL USE ONLY PVPO NUMBER 9500268 DATE Aug. 8, 1995 FILING AND EXAMINATION FEE: 2325 + \$125.00 DATE 08/08/95 - 09/05/95 CERTIFICATION FEE: 300.00 DATE 03/01/96
6. FAX (include area code) (909) 785-8303		7. GENUS AND SPECIES NAME Vigna unguiculata (L.) Walp.	
8. FAMILY NAME (Botanical) Leguminosae		9. CROP KIND NAME (Common name) Cowpea	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS			14. TELEPHONE (include area code)
			15. FAX (include area code)
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)			
} Previously submitted Cowpea 9500268 newly submitted w/ small change } Previously submitted Additional \$125 being submitted			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)? <input checked="" type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input type="checkbox"/> NO (If "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES (If "yes," give names of countries and dates) <input checked="" type="checkbox"/> NO			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.			
The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.			
Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s)) Jeffrey D. Ehlers		SIGNATURE OF APPLICANT (Owner(s))	
NAME (Please print or type) Jeffrey D. Ehlers		NAME (Please print or type)	
CAPACITY OR TITLE Breeder	DATE 8/23/95	CAPACITY OR TITLE	DATE

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed Exhibits A, B, C, E; (3) at least 2,500 viable untreated seeds, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in a public repository prior to issuance of a certificate; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (*See Section 97.175 of the Regulations and Rules of Practice.*) Partial applications will be held in the PVPO for not more than 30 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Blvd., Beltsville, MD 20705-2851. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the Certificate.

Plant Variety Protection Office
Telephone: (301) 504-5518

ITEM

- 16a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;
- (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified.
- 16b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
- (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences;
- (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 16c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 16d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 16e. Section 52(4) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employee of the breeder, the owner through purchase or inheritance, etc.
17. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant may **NOT** reverse this affirmative decision after the variety has been sold and so labelled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (*See P.L. 103-349 for additional information.*)
20. See Sections 41, 42, and 43 of the Act and Section 97.175 of the regulations for eligibility requirements.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment is specified in Section 97.175 of the regulations. (*See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of Regulations and Rules of Practice.*)

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705.
Telephone: (301) 504-8089.

COWPEA

'Kunde Zulu'

14A. Exhibit A: Origin and Breeding History of the Variety

Pedigree: 'Kunde Zulu' is derived from a cross between UCD 339 and TVx 12-01d. This cross was made by myself at Mbita, Kenya, in 1985 and assigned the cross number 85051. UCD 339 is an advanced blackeye breeding line developed by the University of California, Davis, resulting from the cross of California Blackeye 5 (CB5) and PI 352830. CB5 is a popular blackeye cultivar developed in the 1940's at the University of California, Davis, and was the result of crossing 'California Blackeye' and the variety 'Iron'. PI352830 is an accession from India. TVx 12-01d is a breeding line developed by the International Institute of Tropical Agriculture, Ibadan, Nigeria, as a result of hybridizing the cultivars 'Westbred' (TVu 2) from Nigeria and 'Renoster' (TVu 95) from South Africa.

The pedigree method of breeding was used. Single plant selection was conducted beginning in the F₂ generation and again within and between families each generation from the F₃ until the F₇ generation. 'Kunde Zulu' is derived from a single plant selection from an F₇ family from the above cross. 'Kunde Zulu' has been observed to be stable and uniform in terms of plant architecture, maturity, and seed and pod characteristics, through seed increases conducted in five diverse environments (Moreno Valley, CA, June - Sept. 1993, near Indio, CA, Mar. - June 1994, near Temecula, CA, July - Nov. 1994, near Muleshoe, TX, June - Sept. 1995, and near Riverside, CA, June - Oct. 1995). Viny, vigorous variants with blackeye type seeds occur at a frequency of approximately 1:7,000 plants. The origin of these plants is outcrossing which can occur infrequently in some environments.

The primary selection criteria used in the development of 'Kunde Zulu' was for unique seed coat pattern, erect architecture, prolific podding, and earliness to flower and mature.

14B. Exhibit B. Novelty Statement

'**Kunde Zulu**' is most similar to 'CB46' but differs markedly in seed coat color and pattern, and seed size. Seed size data were collected for Kunde Zulu and CB46 at two locations (near Coachella, CA, and near Riverside, CA) in 1995. The data were subjected to an ANOVA following tests for homogeneity of variance (Table 1) which indicated that the seed samples of the two varieties did not possess significantly different variances in either of the two environments. Seed size for '**Kunde Zulu**' averaged 12.9 grams per 100 seeds compared to an average of 20.2 grams per 100 seeds for 'CB46' over these two environments. Data were pooled over environments since the ANOVA did not indicate a significant variety x environment effect (Table 1). The seed size between CB46 and '**Kunde Zulu**' is significantly different according to a "F" test ($F=3654$; $d.f.=6$; $P=0.00$) derived from terms of the ANOVA (Table 1).

The seed coat color and pattern of '**Kunde Zulu**' is dark red (Hue 7.5R, Chroma 8, Value 2 according to the Munsell Book of Color) on a white background, with pigmentation spreading from the hilum to the keel and around almost to the back side of the seed. The margin between pigmented and white areas is diffuse and speckled. Pigment is concentrated at seed edges so that the flat sides of each cotyledon are mostly white while curved surfaces (edges) are pigmented. 'CB46' has a blackeye seed coat, with a small black eye on a white background, typical of cultivars grown in California for the dry grain blackeye market (see attached Objective Description form completed for CB46).

The distinctiveness of '**Kunde Zulu**' derives from its high proportion of exotic parentage and because it was not bred for traditional cowpea grain legume markets in the United States (i.e. 'fresh-shell' cream and pinkeye types for canning and freezing in the Southeastern U.S. and large seeded blackeye types sold for the dry grain package trade in the Western U.S.). It is anticipated that '**Kunde Zulu**' will be marketed as a specialty grain legume, with the unique appearance of its grain being a major selling point.

Table 1. Statistical tests for homogeneity of seed size sample variances for appropriateness of ANOVA and ANOVA summary table for seed size data for the two environments.

	Coachella	Riverside
Mean-Kunde Zulu	12.7	13.2
-CB46	20.1	20.3
Variance-Kunde Zulu	0.083	0.057
-CB46	0.043	0.070
F-for homogeneity	1.930	1.228
d.f. numerator	3	3
d.f. denominator	3	3
Prob.	0.605	0.866

ANOVA TABLE

Source	Degrees Freedom	Sum Squares	Mean Square	F value	Prob.
Loc.	1	0.64	0.64	9.37	0.022
Error	6	0.41	0.07		
Varieties	1	213.16	213.16	3654.17	0.000
Loc. x Var.	1	0.040	0.04	0.69	
Error	6	0.350	0.06		
Total	15	214.60			

CV(%) = 1.5

AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

EXHIBIT C
OBJECTIVE DESCRIPTION OF VARIETY
(COWPEA)

Public reporting burden for this collection of information is estimated to average 60 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Office OIRM, AG Box 7630, Washington, DC 20250; and to the Office of Management and Budget Paperwork Reduction Project (OMB No. 0581-0065), Washington, DC 20503.

NAME OF APPLICANT(S)

Jeffrey D. Ehlers

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)

22500 Climbing Rose Dr.
Moreno Valley, CA, 92557VARIETY NAME OR TEMPORARY
DESIGNATION

Kunde Zulu

FOR OFFICIAL USE ONLY

PVPO NUMBER

9500268

INSTRUCTIONS: See the references listed on the reverse page as an aid for completing this form.

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. 0000) or 0001 when number is either 99 or less.

1. PLANT HABIT AT GREEN SHELL STAGE:

1

1 = ERECT

2 = SEMI-ERECT

3 = PROCUMBENT

4 = PROSTRATE

2. PLANT SIZE:

60

CM HIGH AT MATURITY

3. STEM COLOR:

1

1 = GREEN

2 = PURPLE

4. NODE COLOR:

2

1 = GREEN

2 = PURPLE

5. FOLIAGE:

2

1 = OPEN

2 = COMPACT

6. LEAF COLOR (see reverse for instructions):

2

1 = LIGHT GREEN

2 = MEDIUM GREEN

3 = DARK GREEN

7. LEAF SURFACE:

2

1 = SMOOTH

2 = BLISTERED

1

1 = DULL

2 = GLOSSY

8. FLOWER COLOR (see reverse for instructions):

3

1 = PURPLE

2 = LAVENDER

3 = TINGED

4 = WHITE

9. FIRST FLOWERING:

50

NUMBER OF DAYS

10. POD:

2

PLACEMENT:

1 = BELOW FOLIAGE

2 = ABOVE FOLIAGE

3 = AT FOLIAGE LEVEL

2

LOCATION: 1 = SCATTERED

2 = BUNCHED

10

CM LONG

06

MM WIDE

1

CURVATURE: 1 = STRAIGHT

2 = CURVED

1

CONSTRUCTIONS: 1 = NONE

2 = SLIGHT

3 = DEEP

2

SURFACE (Green shell maturity): 1 = DULL

2 = GLOSSY

3

COLOR (Green shell maturity): 1 = SILVER-GREEN

2 = GREEN

3 = LIGHT PURPLE

4 = DARK PURPLE

2

COLOR (Dry maturity):

1 = WHITE

2 = STRAW

3 = DRAB

4 = PURPLE

2

CROSS SECTION (Green shell stage-width/height):

1 = (1:<)

2 = (1:>)

3 = (1:1)

11. SEED:

12

NUMBER OF SEEDS
PER POD

5

SHAPE (See reverse):

1 = KIDNEY

2 = OVATE TO OVOID

3 = CROWDER

4 = GLOBOSE

5 = RHOMBOID

06

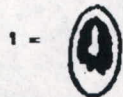
MM LONG

03

MM WIDE

2

HILAR EYE TYPE:



SPECKLED



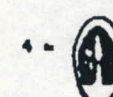
BLOTCH



NARROW



BIG



SMALL



VERY SMALL

140

GRAM PER 1,000 SEEDS

1

COAT: 1 = WRINKLED

2 = SMOOTH

2

COLOR PATTERN: 1 = SINGLE COLOR

2 = PATTERNED

3 = MARBLED

4 = SPECKLED

0

PRIMARY COLOR (Single color or basic color):

1 = PURPLE

2 = BLACK

3 = DULL BLACK

4 = BLUE

5 = RED

6 = COFFEE

7 = MAROON

8 = BUFF OR CLAY

9 = PINK

0 = WHITE

SECONDARY COLORS PRODUCING THE PATTERN, MARBLING OR SPECKLING (Enter a zero in boxes where the colors do not identify the secondary colors):

0

1 = PURPLE

0

2 = BLACK

0

3 = DULL BLACK

0

4 = BLUE

X

5 = RED

0

6 = COFFEE

0

7 = MAROON

0

8 = BUFF

0

9 = PINK

0

0 = WHITE

9500268

0 = Not Tested; 1 = Susceptible; 2 = Resistant;

<input type="checkbox"/> FUSARIUM WILT	<input type="checkbox"/> ROOT KNOT NEMATODE	<input type="checkbox"/> CHARCOAL ROT	<input type="checkbox"/> ZONATE LEAF SPOT
<input type="checkbox"/> RED LEAF SPOT	<input type="checkbox"/> POWDERY MILDEW	<input type="checkbox"/> COWPEA CHLOROTIC MOTTLE VIRUS	<input type="checkbox"/> SOUTHERN BEAN MOSAIC VIRUS
<input type="checkbox"/> BEAN YELLOW MOSAIC VIRUS	<input type="checkbox"/> CUCUMBER MOSAIC VIRUS	<input type="checkbox"/> BEAN POD MOTTLE VIRUS	<input type="checkbox"/> SOYBEAN CYST NEMATODE
<input type="checkbox"/> COWPEA YELLOW MOSAIC VIRUS	<input type="checkbox"/> BACTERIAL CANKER	<input type="checkbox"/> CERCOSPORA LEAF SPOT	<input type="checkbox"/> STING NEMATODE
<input type="checkbox"/> RUST	<input type="checkbox"/> SOUTHERN BLIGHT	<input type="checkbox"/> ROOT ROT	<input type="checkbox"/> OTHER (Specify) _____

13. INSECT (0 = Not Tested; 1 = Susceptible; 2 = Resistant):

<input type="checkbox"/> MEXICAN BEAN BEETLE	<input type="checkbox"/> COWPEA APHID	<input type="checkbox"/> COWPEA CURCULIO	<input type="checkbox"/> STINK BUGS
<input type="checkbox"/> LESSER CORNSTALK BORER	<input type="checkbox"/> EUROPEAN CORNBORER	<input type="checkbox"/> CORN EARWORM	<input type="checkbox"/> BEET ARMYWORM
<input type="checkbox"/> THRIPS	<input type="checkbox"/> SERPENTINE LEAF MINERS	<input type="checkbox"/> OTHER (Specify) _____	

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	VARIETY	CHARACTER	VARIETY
Plant size	CB46	Plant habit	CB46
Pod size	Carolina Cream	Plant pigmentation	CB46
No. days to maturity	CB46	Seed coloration	None similar in USA

INSTRUCTIONS:

GENERAL: The following publications may be used as a reference aid for completing this form:

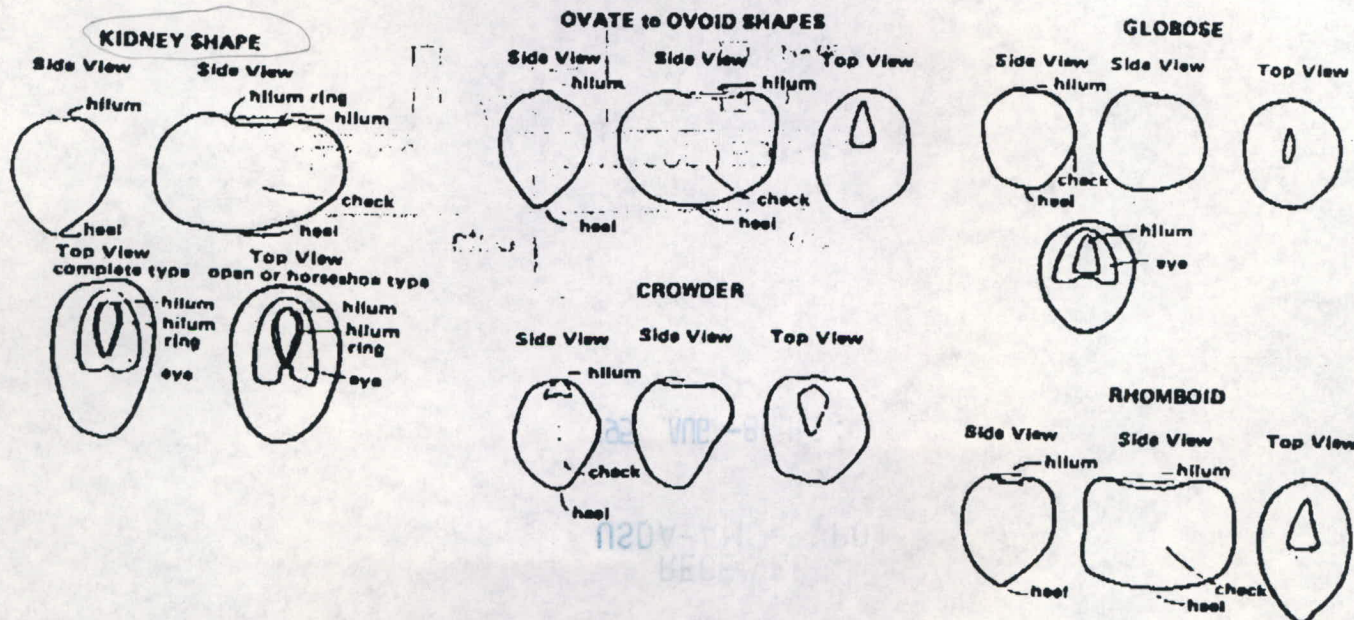
1. C. V. Piper, 1912, Agricultural Varieties of Cowpea and Related Species. USDA, Bulletin No. 229.
2. L. L. Ligon, 1958, Characteristics of Cowpea Varieties. Oklahoma State University, Bulletin B-518.
3. W. J. Spillman and W. J. Sando, 1929, Mendelian Factors in the Cowpea, papers of the Michigan Academy of Science, Arts and Letters, Vol. XI.

LEAF COLOR: Any recognized color chart may be used to determine the leaf color of the described variety. The following cowpea varieties may be used as a guide to identify colors listed:

1. Light Green - Texas Cream 40
2. Medium Green - Big Boy
3. Dark Green - California Blackeye #5

FLOWER COLOR: White flower should be treated with a one percent solution of hydrochloric acid to determine if anthocyanin is present. If color appears as a result of the test, classify as tinged.

TERMS USED TO DESCRIBE SHAPES:



14D. Exhibit D. Additional Description of 'Kunde Zulu'

'Kunde Zulu' is a cowpea, *Vigna unguiculata* (L.) Walp.

'Kunde Zulu' is two days earlier to flower than 'CB46' but matures eight days earlier due to more synchronous flowering (see Table 1 below).

'Kunde Zulu' has averaged 60 cm in height, the same as 'CB46'. Branches of 'Kunde Zulu' are held more erect than 'CB46'. 'Kunde Zulu' is less viny and has a narrower profile than 'CB46'.

Pods of 'Kunde Zulu' are held erect nearly to maturity whereas pods of 'CB46' are not held erect at any time. 'Kunde Zulu' has shorter and narrower pods than CB46 but similar numbers of seeds per pod (Table 1).

At flowering the plant color of 'Kunde Zulu' is medium green, a slightly lighter shade of green than 'CB46'. Anthocyanin is present in the stem and branch nodes of both 'Kunde Zulu' and 'CB46'.

14E. Exhibit E. Statement of the Basis of Applicants Ownership

'**Kunde Zulu**' was bred by myself. The initial cross was made by me in 1985 in Mbita, Kenya while I was employed by the International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria as a Junior Scientist/Cowpea Breeder. My responsibilities were to develop insect resistant cowpea germplasm and varieties for Kenya and neighboring countries. IITA has a world mandate to improve cowpea and several other crops, particularly in developing countries, and routinely distributes germplasm and finished varieties to researchers. When IITA germplasm or finished varieties are utilized, IITA requests only that its contribution be acknowledged. In mid-1988, I completed my contract with IITA and returned to the United States bringing several hundred breeding lines with me, including material that through further selection would become '**Kunde Zulu**'. My claim of ownership derives from the fact that the early generation lines I brought with me from Kenya were freely available to others (and actually distributed to cowpea researchers in Kenya, Somalia, and Tanzania) and because substantial investment of my time and resources were involved after I left employment of IITA to develop this material from an early generation breeding line to a finished variety.

Selection for adaptation was conducted in 1989 and 1990 at my home in Davis, CA, and from 1991 through 1993 at my home in Moreno Valley, CA. The first seed increase was grown by Vince Samons near Indio, CA at DeValle Date Gardens Ranch during the Spring of 1994 on about .25 acre. A large scale seed increase (approx. fifteen acres) was grown by Phil Rheingans in the summer of 1994 near Temecula, CA. Both seed increase plots were financed by Inland Empire Foods, Riverside, CA, who plan on licensing the variety from me.